Water Body Fact Sheets for 2002
Section 303(d) List Update
Lahontan Region

OWENS AND DEEP SPRINGS HYDROLOGIC UNITS

California Regional Water Quality Control Board, Lahontan Region
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Note: This packet contains water body-specific fact sheets for six surface waters of the Owens Hydrologic Unit. Four additional water bodies (Little Hot Creek, Little Alkali Lake, and Keough Hot Springs in the Owens HU, and Deep Springs Lake in the Deep Springs HU), are proposed for delisting. See the summary fact sheet for "Nine Naturally Impaired Waters."

BIG SPRINGS, ARSENIC
2002 Section 303(D) Fact Sheet
Delisting

Rationale for Delisting

Delisting is being proposed for Big Springs because the arsenic comes entirely from natural sources and is, thus, not a "pollutant" under the definition in the Clean Water Act. The springs are located in the volcanic Long Valley Caldera at the headwaters of the Owens River, and elements such as arsenic and fluoride are believed to be indicators of geothermal sources.

The springs were Section 303(d)-listed for arsenic based on data reported in 1991 (mean arsenic concentration 17 micrograms per liter or ug/L; range 12-20 ug/L). These concentrations exceeded the then-current standard of 5 ug/L in the *California Inland Surface Waters Plan*. This plan was subsequently invalidated by a court decision and rescinded. Historic arsenic concentrations in Big Springs exceed the revised drinking water standard (10 ug/L) recently approved by the U.S. Environmental Protection Agency (USEPA).

Arsenic is removed from the Owens Valley water supply before it is delivered for use. The Los Angeles Aqueduct filtration plant is located just north of the terminus in Van Norman Reservoir in the northern San Fernando Valley, and additional arsenic removal occurs within the Los Angeles Aqueduct system. In 2000, the Los Angeles Department of Water and Power reported arsenic concentrations of 2.1-2.3 ug/L in treated water.

There is no current information on aquatic life associated with Big Springs. The USEPA's 1997 guidance for the development of site-specific aquatic life criteria states: *"For aquatic life uses, where the natural background concentration for a specific parameter is documented, by definition that concentration is sufficient to support the level of aquatic life expected to occur naturally at the site absent any interference by humans."*

Watershed Characteristics

The Big Springs are located in Mono County at the headwaters of the Owens River, downstream of the confluence of Deadman and Glass Creeks and upstream of the East Portal of the Mono Craters Tunnel. They provide baseflow for the Owens River; the average annual flow is approximately 50 cubic feet per second (cfs), based on historical Los Angeles Department of Water and Power data.

Information Sources

California Regional Water Quality Control Board, Lahontan Region, 2000. *Use Attainability Analysis for Nine "Naturally Impaired" Waters of the Lahontan Region*.

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U.S. Environmental Protection Agency, 2001. EPA to Implement 10ppb [sic] Standard for Arsenic in Drinking Water. USEPA Office of Water, EPA 815-F-01-010, October 2001. Available on the Internet: http://www.epa.gov/safewater/ars/ars-oct-factsheet.html.

U.S. Geological Survey, 1976. *Sources of Arsenic in Streams Tributary to Lake Crowley, California*, Water-Resources Investigations 76-36.

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CROWLEY LAKE, ARSENIC
2002 Section 303(d) Fact Sheet
Delisting

Rationale for Delisting

Crowley Lake is proposed for delisting because the arsenic comes entirely from natural sources and is, thus, not a "pollutant" as defined in the Clean Water Act. Crowley Lake is also currently listed for nutrients, and it is proposed to remain listed with separate entries for nitrogen and phosphorus. A Section 319 grant-funded study of nonpoint source nutrient inputs to Crowley Lake, including some arsenic sampling, is ongoing.

Historical samples collected between 1940 and 1990 for the Crowley Lake outlet had a mean arsenic concentration of 45.47 micrograms per liter (ug/L), with a maximum concentration of 150 ug/L and a minimum of 4 ug/L. The mean value exceeded the then-current *California Inland Surface Waters Plan* standard of 5 ug/L. That plan has since been invalidated a court order and rescinded. The historic mean arsenic concentration in Crowley Lake exceeds the revised drinking water standard (10 ug/L) recently approved by the U.S. Environmental Protection Agency (USEPA).

Arsenic is removed from the Owens Valley water supply before it is delivered for use. The Los Angeles Aqueduct filtration plant is located just north of the terminus in Van Norman Reservoir in the northern San Fernando Valley, and additional arsenic removal occurs within the Los Angeles Aqueduct system. In 2000, the Los Angeles Department of Water and Power (LADWP) reported arsenic concentrations of 2.1-2.3 ug/L in treated water.

The arsenic in Crowley Lake comes from natural (geothermal, volcanic, and perhaps evaporative) sources in the Long Valley Caldera and Mono Basin, including Grant Lake, Big Springs, Hot Creek and Little Hot Creek, the Alkali Lakes, and the Owens River in Long Valley. Most of these waters are currently listed for arsenic, and are proposed for delisting in 2002. See the fact sheet for Hot Creek for more information about Long Valley Caldera.

The native fishes and other aquatic life of the Owens River system are presumed to be adapted to local arsenic concentrations. The USEPA's (1997) guidance for the development of site specific aquatic life criteria states: *"For aquatic life uses, where the natural background concentration for a specific parameter is documented, by definition that concentration is sufficient to support the level of aquatic life expected to occur naturally at the site absent any interference by humans."*

Watershed Characteristics

Crowley Lake (also known as Long Valley Reservoir) is located in Mono County in the eastern Sierra Nevada. It is the largest reservoir in the Los Angeles Aqueduct system, about 6 miles long and 3 miles wide. Its maximum surface area is 5,272 acres. It was created by the LADWP in 1941 to store water imported from the Mono Basin and the upper Owens River (Long Hydrologic Area) drainage. Tributaries include the Owens River, Leighton Springs, and McGee, Hilton, Whiskey,

and Crooked Creeks. Land ownership in the watershed is mostly public (Inyo National Forest, U.S. Bureau of Land Management, and LADWP). Land use near the reservoir is largely for livestock grazing. Recreational use is important in the upper watershed. The watershed also includes the Town of Mammoth Lakes and several geothermal power plants. The Department of Fish and Game has identified Crowley Lake as the "dominant fishery in the eastern Sierra in terms of angler use and fish production." Total estimated angler hours were 310,061 in 1992, with 47,280 hours of use on the opening week of fishing season.

Information Sources

California Department of Fish and Game, 1997. *A Fisheries Management Plan for Crowley Lake and Tributaries, Mono County, California*.

California Regional Water Quality Control Board, Lahontan Region, 2000. *Use Attainability Analysis for Nine "Naturally Impaired" Waters of the Lahontan Region*.

California Regional Water Quality Control Board, Lahontan Region, 2001. *Staff Report on Recommended Changes to Lahontan Region's Section 303(d) List of Impaired Surface Water Bodies*.

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Los Angeles Department of Water and Power, unpublished water quality data.

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U.S. Environmental Protection Agency, 1997. Establishing Site Specific Aquatic Life Criteria Equal to Natural Background. Memorandum dated November 5, 1997, from Tudor T. Davies, Director, Office of Science and Technology, USEPA Office of Water.

U.S. Environmental Protection Agency, 2001. EPA to Implement 10ppb [sic] Standard for Arsenic in Drinking Water. USEPA Office of Water, EPA 815-F-01-010, October 2001. Available on the Internet: http://www.epa.gov/safewater/ars/ars-oct-factsheet.html.

U.S. Geological Survey, 1976. *Sources of Arsenic in Streams Tributary to Lake Crowley, California*, Water-Resources Investigations 76-36.

TINEMAHA RESERVOIR, ARSENIC
2002 Section 303(d) Fact Sheet
Delisting

Rationale for Delisting

Tinemaha Reservoir is proposed for delisting because the arsenic is entirely from natural sources and, thus, is not a "pollutant" as defined in the Clean Water Act. Arsenic enters the Owens River and Los Angeles Aqueduct systems from volcanic and geothermal sources in the Long Valley Caldera and elsewhere (see the fact sheets for Hot Creek and Crowley Lake). The separate listing of Tinemaha Reservoir for metals is proposed to remain unchanged due to concern about the impacts of copper sulfate use for algae control on water quality and beneficial uses.

Available data for the Owens River below Tinemaha Reservoir show a mean arsenic concentration of 22 micrograms per liter (ug/L). The Owens River mean is higher than the *California Inland Surface Waters Plan* standard (5 ug/L) in effect in the early 1990s when a number of waters in the Owens Valley were Section 303(d)-listed for arsenic. (That plan has since been rescinded.) The historic mean concentration also exceeds the revised drinking water standard for arsenic (10 ug/L) recently approved by the U.S. Environmental Protection Agency (USEPA).

Arsenic is removed from the Owens Valley water supply before it is delivered for use. The Los Angeles Aqueduct filtration plant is located just north of the terminus in Van Norman Reservoir in the northern San Fernando Valley, and additional arsenic removal occurs within the Los Angeles Aqueduct system. In 2000, the Los Angeles Department of Water and Power (LADWP) reported arsenic concentrations of 2.1-2.3 ug/L in treated water.

The native fishes and other aquatic life of the Owens River system are presumed to be adapted to local arsenic concentrations. The USEPA's (1997) guidance for the development of site specific aquatic life criteria states: *"For aquatic life uses, where the natural background concentration for a specific parameter is documented, by definition that concentration is sufficient to support the level of aquatic life expected to occur naturally at the site absent any interference by humans."*

Watershed Characteristics

Tinemaha Reservoir is located in Inyo County southeast of Big Pine (latitude 37.055 ^{o} N, longitude 118.226 ^{o}W). It is one of several reservoirs in the LADWP's Owens River/Los Angeles Aqueduct municipal supply system. It receives inflow from the Middle Owens River and Tinemaha Creek. It was constructed to provide short term-regulation of Owens River flows to allow the maximum amount of flow to be diverted into the Los Angeles Aqueduct. It has a surface area of 2098 acres and a drainage area of 1915 square miles. The maximum storage is about 16,000 acre feet, although earthquake safety concerns have limited the useable storage to 10,000 acre feet in recent years. Releases from Tinemaha Reservoir are usually diverted into the Los Angeles Aqueduct intake at Aberdeen, but excess water occasionally flows down the Owens River channel toward Owens Lake.

Information Sources

California Department of Water Resources, 1993. Dams Within the Jurisdiction of the State of California. Bulletin 17. Available on the Internet: http://elib.cs.berkeley.edu/kopec;/b17/html/home.html.

California Regional Water Quality Control Board, Lahontan Region, 2001. *Staff Report on Recommended Changes to Lahontan Region's Section 303(d) List of Impaired Surface Water Bodies*.

California State Water Resources Control Board, 1991. *California Inland Surface Waters Plan: Water Quality Control Plan for Inland Surface Waters of California*, 91-12 WQ, April, 1991.

Jones & Stokes Associates, Inc., 1993. *Draft Environmental Impact Report for the Review of the Mono Basin Water Rights of the City of Los Angeles. Prepared for California State Water Resources Control Board, May 1993.*

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U.S. Environmental Protection Agency, 2001. EPA to Implement 10ppb [sic] Standard for Arsenic in Drinking Water. USEPA Office of Water, EPA 815-F-01-010, October 2001. Available on the Internet: http://www.epa.gov/safewater/ars/ars-oct-factsheet.html.

U.S. Geological Survey, 1976. *Sources of Arsenic in Streams Tributary to Lake Crowley, California*, Water-Resources Investigations 76-36.

HOT CREEK, METALS
2002 Section 303(d) Fact Sheet
Delisting

Rationale for Delisting

Hot Creek in the Owens River watershed (HU No. 603.10) is recommended for delisting because the toxic trace elements found in ambient water and fish tissue come from natural geothermal and volcanic sources and, thus, are not "pollutants" as defined in the Clean Water Act. (Little Hot Creek, a tributary of this Hot Creek, and a second geothermally-influenced Hot Creek in the Walker River watershed are also recommended for delisting in 2002; see the "Nine Naturally Impaired Waters" fact sheet.)

Hot Creek is located within the volcanic Long Valley Caldera. Evidence of past and resurgent volcanism in the caldera includes fumaroles, hot springs, geysering, and hydrothermally altered rock. Several new springs appeared in Hot Creek in 1973 following an earthquake. The "metals" listing for Hot Creek includes arsenic and other elements such as antimony, beryllium, germanium, barium, strontium, iron, manganese, boron, and fluoride. Statistically "elevated" concentrations of silver and zinc have been observed in fish sampled in Hot Creek under the State Water Resources Control Board's Toxic Substances Monitoring Program. Arsenic has been the element of greatest concern in Hot Creek because the creek contributes a substantial amount of water to the Owens River water supply for the City of Los Angeles. The hot springs tributary to Hot Creek have concentrations of arsenic up to 1100 micrograms per liter (ug/L). In 1991, the mean arsenic concentration in the creek below the hot springs was 220 ug/L . The mean concentration at the County Road station, based on 201 samples collected between 1965 and 1991, was 172 ug/L. Further dilution occurs downstream; in 1976 the concentration in the Owens River upstream of Benton Crossing was less than 100 mg/L. These arsenic concentrations are significantly higher than the revised drinking water standard (10 ug/L) recently approved by the U.S. Environmental Protection Agency (USEPA). Hot Creek is the source of about 60 percent of the arsenic discharged to Crowley Lake.

Arsenic is removed from the Owens Valley water supply before it is delivered for use.
The Los Angeles Aqueduct filtration plant is located just north of the terminus in Van Norman Reservoir in the northern San Fernando Valley, and additional arsenic removal occurs within the Los Angeles Aqueduct system. In 2000, the Los Angeles Department of Water and Power reported arsenic concentrations of 2.1-2.3 ug/L in treated water.

Hot Creek is popular for recreation, but the boiling springs have caused a number of deaths and injuries. A group of warm springs near the transition between Hot and Mammoth Creeks provide water for the Hot Creek fish hatchery. The hatchery supplies trout for planting throughout the southeastern Sierra Nevada. Significant diversions are made from Hot Creek for irrigation of pasturelands.

The USEPA's (1997) guidance for the development of site specific aquatic life criteria states: *"For aquatic life uses, where the natural background concentration for a specific parameter is documented, by definition that concentration is sufficient to support the level of aquatic life expected to occur naturally at the site absent any interference by humans."*

Watershed Characteristics

Hot Creek (latitude 37.71^{o} N, longitude 118.78^{o}W) is located in Mono County in the Long Hydrologic Area of the Owens Hydrologic Unit; it is tributary to the Owens River upstream of Crowley Lake. Hot Creek is the name given to the lower segment of Mammoth Creek, downstream of a group of hot springs. The headwaters of Mammoth Creek are in the John Muir Wilderness near the Sierra Nevada crest; they include the "Mammoth Lakes" and other small lakes. The annual flow of Hot Creek is about 40,630 acre-feet, including about 11,500 acre-feet from the hot springs.

Information Sources

California Regional Water Quality Control Board, Lahontan Region, 2000. *Use Attainability Analysis for Nine "Naturally Impaired" Waters of the Lahontan Region*.

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U.S. Environmental Protection Agency, 2001. EPA to Implement 10ppb [sic] Standard for Arsenic in Drinking Water. USEPA Office of Water, EPA 815-F-01-010, October 2001. Available on the Internet: http://www.epa.gov/safewater/ars/ars-oct-factsheet.html.

U.S. Geological Survey, 1976. *Sources of Arsenic in Streams Tributary to Lake Crowley, California*, Water-Resources Investigations 76-36.

OWENS RIVER, ARSENIC
2002 Section 303(d) Fact Sheet
Delisting

Rationale for Delisting

The Owens River is recommended to be delisted for arsenic because the arsenic comes entirely from natural sources and is, thus, not a "pollutant" under the definition in the Clean Water Act. The Owens River is also Section 303(d)-listed for habitat alterations, and this listing is proposed to remain unchanged during the 2002 listing cycle.

The headwaters of the Owens River are located within the Long Valley Caldera, and their water quality is significantly influenced by volcanic and geothermal sources of trace elements such as arsenic. Although listing was done primarily on the basis of data for the segment of the river within Long Valley, arsenic from geothermal sources in Long Valley is carried to other parts of the watershed. In 83 samples collected by the Los Angeles Department of Water and Power (LADWP) for the Owens River at Benton Crossing, arsenic concentrations ranged from 10 to 170 micrograms per liter (ug/L) with a mean concentration of 60 ug/L. The mean arsenic concentration measured in the lower Owens River below Tinemaha Reservoir is 22 ug/L. Historic arsenic concentrations in both reaches exceed the revised drinking water standard (10 ug/L) recently approved by the U.S. Environmental Protection Agency (USEPA).

Arsenic is removed from the Owens Valley water supply before it is delivered for use. The Los Angeles Aqueduct filtration plant is located just north of the terminus in Van Norman Reservoir in the northern San Fernando Valley, and additional arsenic removal occurs within the Los Angeles Aqueduct system. In 2000, the LADWP reported arsenic concentrations of 2.1-2.3 ug/L in treated water.

The upper and middle reaches of the Owens River support very popular trout fisheries. The Fish Slough wetland provides habitat for threatened/endangered fish species. Regarding native aquatic life, the USEPA's (1997) guidance for the development of site specific aquatic life criteria states: *"For aquatic life uses, where the natural background concentration for a specific parameter is documented, by definition that concentration is sufficient to support the level of aquatic life expected to occur naturally at the site absent any interference by humans."*

Watershed Characteristics

The Owens River is about 120 miles long, with headwaters at Deadman Creek and Big Springs in Mono County and its terminus in Owens Lake in Inyo County. It has many tributary streams flowing from the Sierra Nevada and the White and Inyo Mountains. Tributaries from the Sierra are mostly perennial and those from the White/Inyo Mountains mostly ephemeral. The headwaters of the Sierra streams, including many small lakes, are within several federal wilderness areas, and the Inyo National Forest receives more recreational use than Yellowstone, Glacier and Grand Canyon National Parks combined. The upper Owens River watershed (within the Long Hydrologic Area) is

a Lahontan Regional Board Watershed Management Initiative (WMI) planning area. Surface water is diverted from the Owens River and several tributary streams and ground water of the Owens Valley supplement this flow to the Los Angeles Aqueduct. Reservoirs in the Owens River/Los Angeles Aqueduct system include Crowley Lake, Pleasant Valley Reservoir, and Tinemaha Reservoir.

Information Sources

California Regional Water Quality Control Board, Lahontan Region, 2000. *Use Attainability Analysis for Nine "Naturally Impaired" Waters of the Lahontan Region*.

California Regional Water Quality Control Board, Lahontan Region, 2001. *Staff Report on Recommended Changes to Lahontan Region's Section 303(d) List of Impaired Surface Water Bodies*.

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U.S. Geological Survey, 1976. *Sources of Arsenic in Streams Tributary to Lake Crowley, California*, Water-Resources Investigations 76-36.

OWENS LAKE, SALINITY/TDS/CHLORIDES
2002 Section 303(d) Fact Sheet
Delisting

Rationale for Delisting

Owens Lake is proposed for delisting because the salts and trace elements present in its brine come from natural sources and are, thus, not "pollutants" under the definition in the Clean Water Act. It is the terminal lake for a large internally drained river system, and has accumulated materials from volcanic and geothermal sources and from concentration in a closed basin over geologic time.

Until the early 20th Century, Owens Lake was a permanent inland saline lake and probably supported an aquatic ecosystem similar to that at Mono Lake. Diversions from tributary streams for municipal use in the Los Angeles area led to almost complete drying of the lake. The brine pool at Owens Lake currently supports a simple ecosystem of salt tolerant halobacteria and algae. The total dissolved solids (TDS) concentration of Owens Lake increased from 120,000 parts per million (ppm) prior to 1913 to about 320,000 ppm in 1995. The pH of the brine is about 10.5, and it includes high concentrations of arsenic (110 ppm), boron (278 ppm), fluoride (31 ppm), phosphorus (206 ppm), and other trace elements. The brine is near saturation and a large "ore body" of sodium salts, up to 9 feet thick, has precipitated out. Owens Lake has historically been mined for these salts.

Owens Lake is not used as a drinking water source, and its surface waters are not expected to be in demand for municipal supply. Regional Board staff are currently drafting Basin Plan amendments to remove the potential municipal use designation from the brine pool.

The U.S. Environmental Protection Agency's (USEPA's) 1997 guidance for the development of site specific aquatic life criteria states: *"For aquatic life uses, where the natural background concentration for a specific parameter is documented, by definition that concentration is sufficient to support the level of aquatic life expected to occur naturally at the site absent any interference by humans."*

Watershed Characteristics

Owens Lake in Inyo County is the internally drained, terminal lake for the Owens River system. It historically received water from the Owens River and from perennial and ephemeral tributary streams. Before diversions of tributary streams began in the 1870s, Owens Lake had an area of about 72,000 acres. By 1924, the lake had dried to brine pool an area of about 20,000 acres. The surface waters of the lake include both the brine pool and ephemeral waters that collect on the lakebed from precipitation and surface runoff. The Owens River watershed is largely in public ownership (U.S. Forest Service, U.S. Bureau of Land Management, and Los Angeles Department of Water and Power.) Small communities near Owens Lake include Cartago, Olancha, and Keeler. Most of the Owens Lake Bed is owned by the State of California and controlled by the State Lands Commission.

The dry Owens Lake bed has been called the single largest source of particulate air pollutants in the United States. In 1998, the Los Angeles Department of Water and Power agreed with the Great Basin Unified Air Pollution Control District to control windblown dust on at least 22 square miles of dry lakebed by a mixture of three methods: shallow flooding, revegetation, and gravel cover. The flooding will not refill the lake, but 10 square miles may be permanently wetted with a few inches of water.

Information Sources

California Regional Water Quality Control Board, Lahontan Region, 1995. *Draft Functional Equivalent Document and Staff Report for Proposed Amendments to the Water Quality Control Plan for the Lahontan Region: Appendix C. Use Attainability Analysis for Owens Lake, Inyo County, California.* September, 1995.

California Regional Water Quality Control Board, Lahontan Region, 2000. *Use Attainability Analysis for Nine "Naturally Impaired" Waters of the Lahontan Region*.

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Cone, M. 1998. "L.A. Strikes Deal with Owens Valley to End Dust Woes." *Los Angeles Times*, July 16, 1998.

Great Basin Unified Air Pollution Control District, 1997. *Owens Valley PM_{10} Planning Area, Demonstration of Attainment, State Implementation Plan* (Executive Summary).

Jones & Stokes Associates, Inc., 1993. *Draft Environmental Impact Report for the Review of the Mono Basin Water Rights of the City of Los Angeles. Prepared for California State Water Resources Control Board, May 1993.*

U.S. Environmental Protection Agency, 1997. Establishing Site Specific Aquatic Life Criteria Equal to Natural Background. Memorandum dated November 5, 1997, from Tudor T. Davies, Director, Office of Science and Technology, USEPA Office of Water.

NINE NATURALLY IMPAIRED WATERS, SALINITY, METALS, AND ARSENIC
2002 Section 303(d) Fact Sheet
Delisting

Rationale for Delisting

The nine water bodies listed in Tables 1 and 2 are saline or geothermal surface waters listed in the late 1980s or early 1990s for salinity and/or toxic trace metals. Although constituents exceed drinking water standards, all of these water bodies were given potential Municipal and Domestic Supply (MUN) beneficial use designations as a result of Basin Plan amendments that applied the MUN use to almost all waters in the Lahontan Region. The Regional Board amended its Basin Plan in 2000 to remove the MUN use, and the conflict with drinking water standards, for the waters in Table 1. These amendments have been approved by the State Board and are pending final approvals from other agencies. Regional Board staff conducted a scientific literature review and prepared a detailed Use Attainability Analysis to show that:

- These waters meet the "Sources of Drinking Water Policy" (State Water Resources Control Board Resolution 88-63) criteria for exclusion from the MUN use due to their poor quality, and they are unlikely to be in demand as drinking water due to the relatively small amounts of water available;

- The salts and trace elements affecting these water bodies come from natural sources (volcanic, geothermal, and/or evaporative concentration in closed basins over geologic time);

- Saline and geothermal waters support unique biological communities adapted to their extreme environmental conditions and should not be considered "impaired" in relation to freshwater aquatic life criteria. The U.S. Environmental Protection Agency's (USEPA's) 1997 guidance for the development of site specific aquatic life criteria states: *"For aquatic life uses, where the natural background concentration for a specific parameter is documented, by definition that concentration is sufficient to support the level of aquatic life expected to occur naturally at the site absent any interference by humans."*

These waters, and other "naturally impaired" waters in the Lahontan Region, are recommended for removal from the Section 303(d) list because the salts and trace elements in question are not "pollutants" under the definition in the Clean Water Act. See the Regional Board staff report on the Section 303(d) List update for further discussion of naturally impaired waters in relation to listing.

Because of the extensive documentation already provided in the Use Attainability Analysis, separate fact sheets have not been prepared for these waters.

Table 1. Naturally Impaired Waters Addressed in Lahontan Region's 2000 Basin Plan Amendments

Water Body Name	County	HU No.	Reason for Listing
Wendel Hot Springs	Lassen	637.20	Metals
Amedee Hot Springs	Lassen	637.20	Metals
Hot Creek	Mono	631.40	Metals
Fales Hot Springs	Mono	631.40	Metals
Little Hot Creek	Mono	603.10	Arsenic
Little Alkali Lake	Mono	603.10	Arsenic
Deep Springs Lake	Inyo	605.00	Salinity/TDS/Chlorides
Keough Hot Springs	Inyo	603.00	Metals
Amargosa River	Inyo/San Bernardino	609.00	Salinity/TDS/Chlorides

Table 2. Summary of Compliance With Drinking Water Criteria for Nine "Naturally Impaired" Waters (from Use Attainability Analysis report).

Water Body Name	Sources of Drinking Water Policy TDS Threshold (3000 mg/L) Exceeded?	Parameters Exceeding Other Standards or Criteria	Water Quantity Considerations
Wendel Hot Springs	No	TDS, specific conductance, arsenic, sulfate, fluoride, sodium	Flow in natural springs reduced due to nearby geothermal development.
Amedee Hot Springs	No	TDS, sulfate, fluoride, boron, sodium	Flow in natural springs reduced due to nearby geothermal development.
Fales Hot Springs	No	TDS, specific conductance, sulfate, fluoride, arsenic, copper, molybdenum, lead, aluminum	
Hot Creek	No	Specific conductance, fluoride, boron	
Little Hot Creek	No	Arsenic, beryllium, specific conductance, boron, lead, fluoride, antimony.	Annual flow ca. 1000 acre-feet; evaporation increases salinity
Little Alkali Lake	Yes	TDS, Arsenic	Ephemeral
Keough Hot Springs	No	TDS	Flow 600 gallons per minute
Deep Springs Lake	Yes	TDS, specific conductance, pH	Ephemeral
Amargosa River	Yes (in Death Valley)	TDS, specific conductance, arsenic, sulfate, sodium, chloride, fluoride, boron.	Intermittent, variable annual flows

Information Sources

California Regional Water Quality Control Board, Lahontan Region, 1995. *Water Quality Control Plan for the Lahontan Region.*

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